

Summary of changes from Windbreak Suitability Groups (WSG) to Conservation Tree and Shrub Groups (CTSG)

August, 2013

Note: Some changes and new soil component rankings may be due to corrections of previously inaccurate classifications. 123 new soil component names have been added, primarily due to MLRA's shared with other states.

CTSG-1 61 total component soils in ND

There are very few changes between WSG-1 and CTSG-1. Minor changes in textures at different depths or pH caused a few components to be reclassified.

- 1 (Magnus) was previously WSG-3.
- 45 were previously WSG-1.
- 15 are new.

CTSG-1K 23 total component soils in ND

The soil components of this classification are essentially the same as WSG-1. pH ranges from 5-15%.

- 13 were previously WSG-1K.
- 1 (Huot) is new.

CTSG-1KK 3 total component soils in ND

Ph ranges from 15%-45% with a calcic layer.

- All are newly identified soil components in ND.

CSG-1S 19 total soil components in ND

These few soil components cover a significant part of the state. The high water tables in these soils make them suitable for good growth on most species. Cottonwoods in particular do quite well on the high water table sands. This CTSG-1S group will require a foot note that states something along the lines, "Supplemental water or timely rains will be needed for the first few years after planting until tree roots have reached the capillary fringe of the water table." This is probably the most beneficial change as we switch systems.

- 3 (Alymer Hecla S, and Falsen) were previously WSG-10.
- 2 (Hecla LFS and Hecla LS) were previously WSG-7.
- 2 (Hecla FSL and Hecla SL) were previously WSG-1.
- 12 are newly identified soil components in ND.

CTSG-2 57 total component soils in ND.

Soils within the broad umbrella of the CTSG-2's are not near as wet as the WSG-2 soils. CTSG-2 soils are somewhat poorly drained and drained poorly drained compared to WSG-2 soils that were very poorly drained. WSG-1 had included some soils that were somewhat poorly drained.

- 17 component soils were previously WSG-1.
- 5 (Hamar, Neche variant, Minnewaukan, Tiffany (2)) were WSG-2.
- 1 (Suomi) was WSG-4.
- 1 (Bantry) was WSG-10.
- 1 (Fargo) was WSG-4C.
- 1 (Wynd) was WSG-1K.

CTSG-2H 4 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 4 (Eromosh, Markey, Rifle, Seeleyville) were WSG-2H (mucks).

**Summary of changes from Windbreak Suitability Groups (WSG) to
Conservation Tree and Shrub Groups (CTSG)**

August, 2013

CTSG-2K 10 total component soils in ND.

This group consists primarily of the high pH(5-15%), somewhat poorly drained soils.

- 1 (Rolliss drained) was WSG-1.
- 1 (Grano) was WSG-4.
- 2 (Big Sandy, Ludden) were WSG-2K.
- 4 (Fossum, Lallie, Lamoure, Mavais) were WSG-1K.
- 2 are new.

CTSG-2KK 54 total component soils in ND.

This group consists primarily of the high pH soils (15-45%) with a calcic layer.

- 32 had been WSG-1K.
- 4 were WSG-2K
- 1 (Antler) had been WSG-9W.
- 16 are new.

CTSG-3 37 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 1 (Felon) was WSG-4.
- 30 were previously WSG-3.
- 6 are new.

CTSG-4 16 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 4 (Alkabo, Bearpaw, Cathay, and Niobell) were previously WSG-3.
- 9 were WSG-4.
- 3 are new.

CTSG-4C 20 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 1 (Regent) was WSG-4.
- 18 were previously WSG-4C.
- 1 is new.

CTSG-4CK 4 total component soils in ND

The soil components of this classification are essentially the same as previously except to sort out those that have a calcium carbonate concentration of 5-15%.

- All were WSG-4C.

CTSG-5 23 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 1 (Inkster) was WSG-1.
- 1 (Barnes sandy) was previously WSG-3.
- 1 (Maddock loamy) was previously WSG-7.
- 19 were previously WSG-5.
- 1 is new.

**Summary of changes from Windbreak Suitability Groups (WSG) to
Conservation Tree and Shrub Groups (CTSG)**

August, 2013

CTSG-5K 2 total component soils in ND

Only two soils. pH is 5-15%. Should have very minor impact.

- 1 (Trembles) was previously WSG-5.
- 1 (Trembles variant) was previously WSG-1.

CTSG-6D 14 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 13 were previously WSG-6D.
- 1 is new.

CTSG-6DK 2 total component soils in ND

Soil pH is 5-15%.

- All component soils (Chama) were previously WSG 8.

CTSG-6G 38 total component soils in ND

The soil components of this classification are essentially the same as previously

- 1 (Cozeberg) was WSG-5.
- 1 (Boxwell) was WSG-10.
- 31 were previously WSG-6G.
- 5 were new.

CTSG-6GK 4 total component soils in ND.

Droughty soils with a pH of 5-15%.

- 2 (Ridgelawn) were WSG-6G.
- 2 are new.

CTSG-7 24 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 1 (Arvilla) was previously WSG-6G.
- 22 were previously WSG-7.
- 1 is new.

CTSG-8K 24 total component soils in ND

The soil components of this classification are similar to WSG-8. pH is 15-45% and soils have a calcic layer.

- 3 (Cherry, Lambert, Lona) were WSG-3.
- 11 were previously WSG-8.
- 6 are new.

CTSG-9N 24 total component soils in ND

- 9 were previously WSG-9C.
- 14 were previously WSG-9L.
- 1 is new.

The surface of a CTSG-9N soil could be a very nice productive loam, but it may only be 4-10" thick. Below that is a sodic (impervious) layer that greatly restricts root penetration. Below that are saline conditions with mmhos from 4-16. If the surface layer is 10" thick, a few species might do ok. If it is only the 4" layer most species will barely survive, if at all.

Summary of changes from Windbreak Suitability Groups (WSG) to Conservation Tree and Shrub Groups (CTSG)

August, 2013

Note: for all CTSG-9 soils: None of the "species" other than salt cedar or Russian olive can be expected to perform as intended. Other "approved" species will survive but rarely get big enough. Soils with the lower amounts of salinity will yield the most effective tree plantings. Relocation of the planting to better soils or construction of a board fence is the only sure way to get adequate windbreak benefits.

CTSG-9W 19 total component soils in ND

The soil components of this classification are essentially the same as previously.

- 1 (Lohler saline) was previously WSG-10.
- 1 (Velva saline) was previously WSG-9C.
- 17 were previously WSG-9W.

CTSG-10 368 of 838 (44%) total component soils in ND

Many WSG-2 soils were reclassified into CTSG-10 (100). This was primarily due to surface ponding or saturation for significant parts of the growing season. Some of the saturated soils may be suited for planting of willows or dogwood or false indigo, but this determination would be difficult without onsite soil scientist assistance. The remaining CTSG-10 classification changes were due to: too salty, to high pH, too droughty, or the site is too rocky, dissected, steep or wet to work with machinery .

- 1 (Lankin stony) was previously WSG-1.
- 4 were previously WSG-1K.
- 30 were previously WSG-2 (mostly undrained).
- 1 (Eramosh ponded) was previously WSG-2H.
- 26 were previously WSG-2K.
- 1 (Cathay boulder) was previously WSG-3.
- 2(Fulda and Viking) were previously WSG-4C.
- 1 (Zahl stony) were previously WSG-8.
- 3 were previously WSG-9L.
- 11 were previously WSG-9W.
- 224 were previously WSG-10.
- 62 were new.